

FIGURE 1

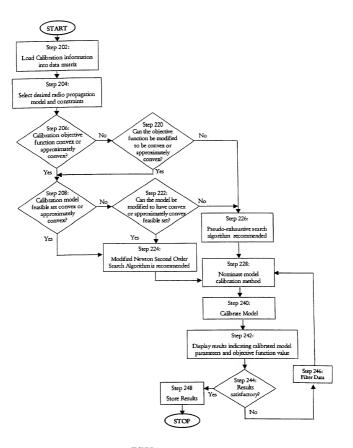


FIGURE 2

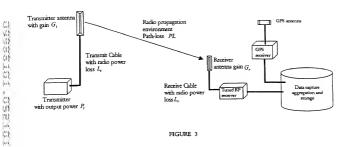


FIGURE 3

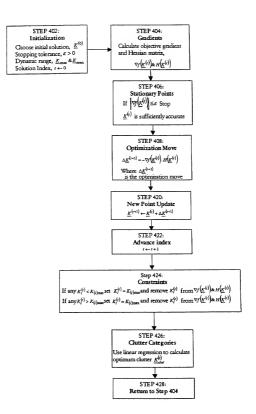
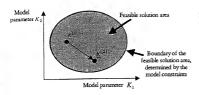


FIGURE 4



Demonstrates a convex feasible set, which implies that any solution within the feasible set can be reached from any other solution in the feasible set.

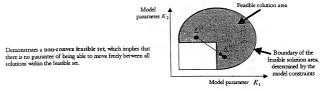


FIGURE 5

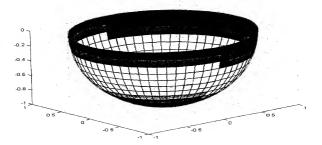


FIGURE 6

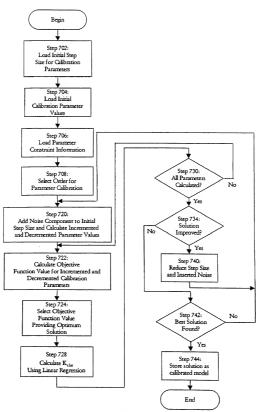


FIGURE 7

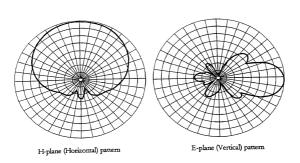


FIGURE 8

STEP 902: Horizontal Antenna Gain

Antenna gain in the horizontal direction, H_{σ} is determined for angle of the measurement data relative to the antenna location, θ The intermediate angular field data may be obtained by interpolation of actual data

STEP 904:

Horizontal Relative Antenna Gains

Bore-sight and back-lobe (180 degrees relative to bore-sight) antenna gain is determined, $(H_b \& H_{180})$

STEP 906:

Horizontal "Linear" Gain

Calculate the horizontal "linear" gain,

$$H_l = H_b - H_{180} * \frac{\theta}{\pi}$$

STEP 908:

Horizontal Gain Differential

Calculate the difference between the actual and horizontal "linear" gains $H\Delta = H_a - H_l$

STEP 920: Vertical Orientation

Determine the vertical angle the measurement location makes with the antenna bore-sight, ϕ

STEP 922:

Vertical Gain Differential Calculate the vertical gains in the front and rear lobes $V_{f(\phi)} \& V_{r(\phi)}$ and gain differential

$$V_{b(\phi)} = V_{f(\phi)} - V_{r(\phi)}$$

STEP 924: Antenna Gain

Approximate 3-dimensional antenna

$$gain$$
 $G(\theta, \phi) = V_{f(\phi)} - \left[V_{b(\phi)} * \frac{\theta}{\pi}\right] + H\Delta$

FIGURE 9

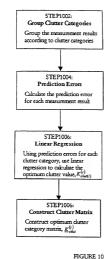


FIGURE 10

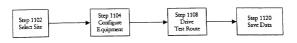


FIGURE 11